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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,557	07/16/2004	Ronan Garrec	255261US0PCT	5138
22850 7590 01/02/2008 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER SELLMAN, CACHET I	
			ART UNIT 1792	PAPER NUMBER
			NOTIFICATION DATE 01/02/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/501,557

Applicant(s)

GARREC ET AL.

Examiner

Cachet I. Sellman

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 21-23 and 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boire et al. (US 6103363) in view of Nakada et al. (JP 08302856) and Hitachi Ltd (JP79038908).

Boire et al. teaches a process for applying a photocatalytic coating to a glass substrate in order to promote self-cleaning and which has an external surface that is hydrophilic and/or oleophilic (abstract and col. 3, lines 56-59). The glass substrate comprises a glazing unit comprising monolithic or laminated glass with a layer of photocatalytic TiO₂ (col. 6, lines 37-41, and col. 2, lines 15-67).

Boire et al. does not teach removing at least silicone pollution from the substrate using an electrical or a flame treatment as required by **claim 21**.

Nakada et al. teaches a glazing unit which is sealed using a silicone sealant material and a process for removing silicone oil of the sealant material from the glass substrate (coated with titanium oxide) so the sealing is only on the area to be sealed. The silicone is removed by irradiating the photo catalyst coated glass with sunrays, which decomposes (removes) the dirt (silicone oil) on the glass [0008-0010].

Hitachi discloses a process for removing silicone coating from a glass substrate by using corona discharge or oxygen plasma.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process of Boire et al. to include the silicone sealant of Nakada et al. One would have been motivated to do so because both disclose processes of forming laminated glass used for building material that have antifouling properties and Boire et al. is absent on what is used to seal the glass together to form the laminate and Nakada et al. teaches silicone as an operable sealant therefore one would have a reasonable expectation of success in sealing the glass using the silicone sealant.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process of Boire et al in view of Nakada et al. to include the contaminant removal process of Hitachi Ltd. One would have been

motivated to do so because it is well known in the art that silicone is a hard substance to remove from glass substrates and therefore if the self cleaning glass was not sufficiently removing the silicone from the glass, one having ordinary skill in the art would look to the art to find a process for sufficiently removing silicone from glass which is taught by Hitachi Ltd. Hitachi Ltd. further teaches that using an oxygen plasma is beneficial in the removal of silicone resin therefore one would have a reasonable expectation of success in thoroughly cleaning the glass by additionally exposing the substrate to an oxygen plasma as taught by Hitachi Ltd..

As taught by Hitachi Ltd., a plasma treatment is used as required by **claims 22-23**. As stated above, the substrate is hydrophilic and oleophilic (col. 3, lines 56-60) as required by **claim 25**. Boire et al. teaches that the titanium oxide layer is of the crystalline nature, anatase and/or rutile (col. 8, lines 13-18) as required by **claim 26**. Boire et al. also teaches that the surface is textured (roughened) to enhance the wetting properties (col. 4, lines 42-49) as required by **claim 27**. Boire states that the glass can have a layer of silicon oxycarbide to serve as a barrier (col. 8, lines 55-57) as required by **claim 28**.

It would have been obvious to rinse the substrate with water in order to insure any excess contaminants were removed as required by **claim 29**.

Response to Arguments

4. Applicant's arguments, see pages 4-5, filed 10/3/2007, with respect to the rejection(s) of claim(s) 21-29 under 103 have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cachet I. Sellman whose telephone number is 571-272-0691. The examiner can normally be reached on Monday through Friday, 7:00 - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Cachet I Sellman
Examiner
Art Unit 1792

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/William Phillip Fletcher III/
Primary Examiner